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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BERMAN, SUSAN W

ART UNIT PAPER NUMBER

1711

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/806,648

Applicant(s)

FRANCES, JEAN-MARC

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/01 1 page.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12: line 20, the phrase “formula (II)(L<sup>1</sup>L<sup>2</sup>L<sup>3</sup>M)<sup>+q</sup>,” does not clearly set forth the formula and the label. Is the (II) intended to be formula (II) or part of the formula? Line 35, the phrase “formula [BX<sub>a</sub>R<sub>b</sub>]<sup>-</sup> (III)” doesn’t clearly set forth the formula and the label. It is suggested that the formula for the cation and the formula for the anion should be set forth consistently in the same manner. See formula (I) and the formula in lines 5 and 6. In line 38, it is not clear whether applicant intends to set forth a halogen atom or to set forth chlorine or fluorine for the symbol “X”. With respect to claim 16, there is no antecedent basis in claim 12 for the recitation “Z1” because claim 12 recites “Z”. Claim 18 is indefinite because the claim depends from a canceled claim (claim 1). Claim 19 provides for the use of a dental composition, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Note the “prosthese” is misspelled.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivoclar AG, Li (CA 2 232 960) in view of Priou (5,693,688). CA '960 discloses dental materials obtained from polymerizable and hydrolyzable oxetane silanes. Sensitizers and fillers are taught on pages 23-25. CA '960 teaches using a cationic initiator, such as  $\text{BF}_3$ , or a photoinitiator such as onium salts or cyclopentadienyl iron (I) salts. CA '960 does not mention borate salts of cyclopentadienyl iron or other organometallic cations. Priou discloses initiators for cationic polymerization or crosslinking of functional polyorganosiloxanes crosslinkable cationically and under UV. The same organometallic salts having a borate anion as are instantly claimed are disclosed in column 4. organometallic salts of iron are especially preferred (column 4, lines 12-13). Compositions comprising the organometallic salts and epoxy functional or vinyloxy functional polyorganosiloxanes are taught. Photosensitizers and fillers can be added (column 7, lines 23-36). Priou does not teach use in dental materials.

It would have been obvious to one skilled in the art at the time of the invention to substitute a cyclopentadienyl iron salt of a borate anion photoinitiators taught by Priou for the cyclopentadienyl iron salts as photoinitiator in the analogous organosiloxane compositions disclosed by CA '960. CA '960 provides motivation by teaching that cyclopentadienyl iron salts are suitable photoinitiators in the disclosed compositions. Priou provides motivation by teaching that cyclopentadienyl iron salts of a borate anion are useful for photopolymerization or photocrosslinking of polyorganosiloxane having epoxy or vinyloxy functional groups. One of ordinary skill in the art at the time of the invention would have been

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motivated by an expectation of successfully providing a photocurable organosiloxane composition for dental materials, as taught by CA '960.

Claims 12-14, 16, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt (5,401,528 or WO 92/16183) in view of Priou (5,693,688). Schmidt discloses compositions for coating teeth and for dental prostheses comprising organofunctional silanes or siloxanes and a compound "MR<sub>x</sub>". See the definitions of silane formula (II) and silane formula (III). Among the specific photoinitiators taught is a cyclopentadienyl iron PF<sub>6</sub><sup>-</sup> salt (column 5, line 60, to column 6, line 11).

Priou discloses initiators for cationic polymerization or crosslinking of functional polyorganosiloxanes crosslinkable cationically and under UV. The same organometallic salts having a borate anion as are instantly claimed are disclosed in column 4. organometallic salts of iron are especially preferred (column 4, lines 12-13). Compositions comprising the organometallic salts and epoxy functional or vinyloxy functional polyorganosiloxanes are taught. Photosensitizers and fillers can be added (column 7, lines 23-36). Priou does not teach use in dental materials.

It would have been obvious to one skilled in the art at the time of the invention to substitute a cyclopentadienyl iron salt of a borate anion photoinitiators taught by Priou for the cyclopentadienyl iron salts as photoinitiator in the analogous organosiloxane compositions disclosed by Schmidt. Schmidt provides motivation by teaching that cyclopentadienyl iron salts are suitable photoinitiators in the disclosed compositions. Priou provides motivation by teaching that cyclopentadienyl iron salts of a borate anion are useful for photopolymerization or photocrosslinking of polyorganosiloxane having epoxy or vinyl oxy functional groups. One of ordinary skill in the art at the time of the invention would have been motivated by an expectation of successfully providing a photocurable organosiloxane composition for dental materials, as taught by Schmidt.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 12-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 4 of U.S. Patent No. 6,747,071. Although the conflicting claims are not identical, they are not patentably distinct from each other because the compositions set forth in the claim 4 of US '071 are encompassed by the compositions set forth in the claims of the instant application. It would have been obvious to one skilled in the art at the time of the invention to employ compositions comprising an organometallic salt of a borate anion of the generic formula set forth in the instant claims in view of the cyclopentadienyl iron organometallic borate salts set forth in claim 4 of US '071. Organometallic borate salts of the instantly claimed formula would have been immediately envisioned from the species of organometallic iron salts set forth in claim 4 of US '071. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of providing a useful dental composition.

Claims 12-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,747,071 in view of Priou '688. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. The compositions set forth in the claims of US '071 encompass compositions

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comprising a photoinitiator containing a borate anion and an onium cation (claim 1) or a cyclopentadienyl iron cation (claim 4). Priou teaches analogous compositions wherein the photoinitiator can be an onium borate or an organometallic salt of formula (II) set forth in column 4 of US '688. It would have been obvious to one skilled in the art at the time of the invention to employ an organometallic salt of a borate anion instead of an onium borate salt in the compositions set forth in the claims of US '071. US '071 provides motivation by teaching organometallic borate salts in claim 4. Priou provides additional motivation by teaching that onium borate salts or organometallic borate salts are suitable photoinitiators in analogous silicone compositions. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of providing a useful dental composition, as claimed in US '071.

Claims 12-19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 10/781,064. Although the conflicting claims are not identical, they are not patentably distinct from each other because the compositions set forth in the claims of the instant application are encompassed by the compositions set forth in the claims of SN '064 wherein the photoinitiator is an organometallic salt of formula (III), as set forth in claim 1 of SN '064. It would have been obvious to one skilled in the art at the time of the invention to select compositions comprising an organometallic salt of a borate anion from those set forth in the claims of SN '064 since the photoinitiator can be chosen from organometallic salts of a borate anion. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of providing a useful dental composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman  
Primary Examiner  
Art Unit 1711

SB  
10/6/04